

Remarks/Arguments:

This is a reply to the office action of February 18.

Claims 36 and 37 have been amended to depend from claim 35. Claims 44, 49 and 50 now depend from claim 45. Claims 45 and 51 not depend from claim 43.

35 USC 102 rejections

Independent claim 33 was rejected as anticipated by Patrick et al. (US 5,474,648). That claim recites a method of operating a plasma generating device for treatment of a gaseous medium. The method requires detection of a contamination level of said gaseous medium and modulation of at least one signal of said device according to said detected contamination level.

Patrick relates to a system and a method for dynamic controlling of radio frequency power parameters in a plasma chamber for improvements in a plasma etching processes. The system comprises a radio frequency generator coupled to a plasma chamber through a matching network consisting of capacitors and a coil. The plasma chamber includes electrodes.

The device of Patrick further features a computer control system to control radio frequency power. The computer control system also monitors the plasma chamber electrode load characteristics (col. 5, lines 41 - 42). In doing so, leaks (line 43) or contaminations (line 56) of the plasma chamber can be detected. Such detection leads to an operator being alerted that the system is not functioning as expected (lines 51 - 55).

Still, the applicant respectfully submits that Patrick fails to disclose a method of operating a plasma generating device comprising the steps of detecting a contami-

nation level of a gaseous medium and according to said detected contamination level, modulating at least one electrical signal of said device. Patrick holds the electrical signal constant, which signal might otherwise vary due to, e.g., contamination. However, Patrick does not determine the contamination as such.

Independent claim 33 is therefore novel over Patrick et al.

Claim 41 was also rejected as being anticipated by Patrick. Like independent claim 33 above, Patrick fails to disclose a detection device for detecting a level of contamination of a gaseous medium. Further Patrick et al. fails to disclose a control device modulating a Plasma generating device according to a level of contamination detectable by said-detection device.

It is thus respectfully submitted that present claim 41 is novel over Patrick et al.

35 USC 103 rejections

As discussed above, Patrick fails to show a method comprising the steps of detecting a contamination level of a gaseous medium and modulating at least one electrical signal of the device according to said detected contamination level.

None of the documents cited by the examining division shows such a method.

Crowe et al. (US 7,192,553 B2) discloses a method and system for sterilizing air streams and for decontaminating objects on surfaces. The method and system uses a non-thermal plasma discharge device. Organic vapors are used in a non-thermal plasma discharge to improve sterilization rates.

Campbell et al. (US 5,650,693) relates to the sterilization of articles with gaseous species. A gas mixture of oxygen and hydrogen in noble gas is ionized into plasma in a container. The plasma is produced as a result of an applied electrical or electromagnetic field.

Bennett et al. (US 5,367,139) relates to a method and device for preventing contamination of a plasma reactor system with particles. Electrostatic, electromagnetic, mechanical, thermal, pressure, hygroscopic or chemical means are used to eliminate particle contamination in situ in a plasma reactor system.

None of the cited documents of the prior art mentions a method of operating a plasma generating device for the treatment of a gaseous medium, comprising the steps of detecting a contamination level of the gaseous medium and modulating at least one electrical signal of said device according to said detected contamination level.

An object of the present invention is to provide a method and system for the treatment of gaseous media containing contaminant particles.

It is a distinct advantage of the present invention, that the energy required for successful sterilization can be adapted to the level of contamination. Further, a more thorough and appropriate sterilization becomes possible by modulating the electrical signal of the device according to a detected contamination level.

None of the references are concerned with this problem, nor do they provide to a person of skilled in the art any motivation or incentive to reach the present solution.

It is therefore believed, that the invention claimed in claim 33 is not obvious in view of the cited prior art.

Independent claim 41 relates to a plasma generating device for treating a gaseous medium. The device comprises a control device and a powering system connected to the control device.

Further, the device comprises a detection device for detecting a level of contamination of said gaseous medium. The control device is adapted to modulate an electrical signal of said plasma generating device according to the level of contamination detected by said detection device.

As stated above with respect to independent claim 33, Patrick et al. fails to disclose a detection device for detecting a level of contamination. Further, none of the other cited prior art documents – Crowe, Campbell or Bennett – provides a disclosure of such a device. In our view, the prior art as a whole does not suggest the subject matter of claim 41 and therefore, that claim is deemed non-obvious in view of the cited prior art.

We believe the claims now presented are patentable over the prior art of record, and that this application is now in condition for allowance.

Respectfully submitted,

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